



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/913,608	08/16/2001	Mitsuru Uesugi	L9289.01171	3897
24257	7590	01/26/2005	EXAMINER	
STEVENS DAVIS MILLER & MOSHER, LLP 1615 L STREET, NW SUITE 850 WASHINGTON, DC 20036			TIEU, BENNY QUOC	
			ART UNIT	PAPER NUMBER
			2642	

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/913,608	<b>Applicant(s)</b> UESUGI, MITSURU	
	<b>Examiner</b> Benny Q. Tieu	<b>Art Unit</b> 2642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/16/01</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Dogan et al. (U.S. Patent No. 6,215,983).

Regarding claims 1-9, Dogan et al. teach method and apparatus for complex phase equalization in a communication system. The method includes receiving and downconverting a two-dimensional communication signal to generate in-phase (I) and quadrature (Q) components that have been phase-rotated by an unknown amount during propagation from a transmitter, and then processing the I and Q signals in a cumulant recovery processing system to obtain phase correction of the I and Q signals prior to demodulation. The final step is demodulating the two-dimensional communication signal. Phase correction is effected without regard to modulation type and independently of the demodulating step. The apparatus includes means for generating the set of conditioned signals includes a covariance matrix computation module, an eigendecomposition module for generating an estimate of the number of signal sources, a transformation matrix for conditioning the receiver signals, and an eigenstructure derived from the receiver signals. Again, the EGSV generator employs signals output by the eigendecomposition module to compute EGSVs. Processing is on a block-by-block basis, and

Art Unit: 2642

the system further comprises a multiple port signal recovery unit, including means for matching current EGSVs with EGSVs from a prior data block to impose waveform continuity from block to block (see columns 7-11).

### *Conclusion*

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bond et al. (U.S. Patent No. 5,495,496) teach a method and apparatus for suppressing linear amplitude interference from bandspread communication signals. Bergstrom et al. (U.S. Patent No. 6,131,013) teach a method and apparatus for performing targeted interference suppression.

4. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

OR Hand-delivered responses should be brought to:

220 South 20<sup>th</sup> Street

Crystal Plaza Two, Lobby, Room 1B03

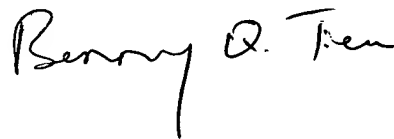
Arlington, VA 22202.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benny Q. Tieu whose telephone number is (703) 305-2360. The examiner can normally be reached on Monday-Friday: 6:30AM - 5:00PM.

Art Unit: 2642

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar can be reached on (703) 305-4731. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**BENNY TIEU**  
**PRIMARY EXAMINER**

Art Unit 2642  
January 22, 2005